File

August 25, 1971

National Institute for Occupational
Safety and Health
1014 Broadway, Cincinnati, Ohio 45202

Mr. Lawrence Moody
Plant Manager
H. K. Porter Company
Charlotte, North Carolina

Dear Mr. Moody:

We would again like to thank you for your cooperation during our recent survey of asbestos dust in your plant. Data obtained from this survey should prove valuable in our efforts

Presently, only the samples taken in the amosite operation of your plant have been counted. These counts were made on Millipore Type AA Filters rendered transparent by a mixture of 50% diethyl oxylate and 50% dimethyl phthalate. The counts were made using a 4mm (43X) objective with phase contrast illumination. A copy of the results are given in the attachment.

As you are probably aware, the concentrations in the amosite operation at this time were quite high. The proposed threshold limit value for asbestos is 5 fibers/cc greater than 5μ in length as stated in the 1970 American Conference of Governmental Industrial Hygienists list of intended changes. I will send you a copy of the sample counts for the remainder of the plant when they become available.

If I can be of any assistance please feel free to contact me.

Sincerely,

John M. Dement
Assistant Sanitary Engineer
Environmental Assay Branch

JMDEMENT/lc
cc: J. Lumsden ✓
Region IV
Dr. Wagoner
H. E. Ayer
Dr. Johnson

Blumberg No. 6113
PLAINTIFF'S EXHIBIT
5-102

RESULTS
OF
MARCH, 1971
AIR SAMPLES IN AMOSITE OPERATION

H. K. Porter Company
Charlotte, North Carolina

PERSONAL SAMPLES

OPERATION	TYPE OF SAMPLE	SAMPLE NUMBER	FIBER>5μ PER cc
Fiber Preparation			
	Filter	101	220.0*
Carding			
	Filter	119	46.5
	Filter	220	152.0*
	Filter	225	44.6
Weaving			
	Filter	118	124.0*
Fixing			
	Filter	221	0.41'
	Filter	120	72.8
	Filter	224	26.9

* - Filters were too dusty to get an accurate count. Counts given are only estimates.
' - Worker was not in amosite room during sample period.

#2

Results of Air Samples of February 1964
Charlotte Works, H.K. Porter Company

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Fiber Preparation					
Blender Operator-BZ	55	0.9	56	7.8	1.1
	215	0.8	216	6.2	3.1
	232	1.9	233	6.9	3.1
	235	1.2	234	6.2	0.7
	567	0.6	568	15.9	5.8
Person.			50M	5.4	1.4
			53	7.8	1.1
			203	8.3	0.5
			204	10.6	3.4
			206	11.0	1.2
Stock Packer-BZ	237	4.3	236	20.9	6.3
	569	7.3	570	68.6	9.6
Willow Operator-BZ	33	1.8	34	160.3	41.4
	211	3.7	212	14.0	1.2
Person.			54	15.2	5.4
			202	44.7	17.5
			214	72.6	17.4
Stock Opening-Person.			201	3.5	1.0
General Air - Seq.	18	0.4	19	5.0	1.2
	20	0.8	21	5.6	1.8
	22	1.2	23	10.1	3.4
	24	1.3	25	4.0	2.1
	26	0.9	27	7.0	1.4
			229	4.0	0.8
Seq.	40	1.3	41	15.0	2.9
	42	1.3	43	23.8	4.2
	44	4.4	45	17.9	2.8
	46	0.7	47	3.8	2.8
	48	1.5	49	10.1	2.6
	50I	1.0			

Notes on Abbreviations:
"Person." refers to personal samples on membrane filters
"BZ" refers to breathing zone samples by companion impinger & membrane filter
"Seq." refers to unattended samples taken by a sequential sampler

Charlotte Works, H.K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Fiber Preparation (cont.)					
General Air-Seq. (cont.)			221	5.9	0.7
	227	0.4	222	2.6	0.4
	228	0.4	223	8.0	0.7
	229	0.7	224	1.6	0.9
	230	0.7	225	10.5	2.8
	231	0.6	226	12.6	2.8
Seq.	553	0.8	559	8.0	2.4
	554	0.6	560	6.3	2.8
	555	0.4	561	15.9	3.9
	556	1.3	562	4.8	1.3
	557	1.6	563	6.5	1.4
	558	0.9	564	3.5	1.8
	401	0.2	403	7.1	1.0
	405	0.5	407	6.9	1.4
	409	1.3	411	5.5	1.1
	413	0.7	415	14.9	4.5
Carding					
Fixer - BZ	10	1.6	9	16.1	6.0
	529	1.9	530	22.1	3.7
	548	1.3	549	18.5	2.5
	730	0.9	729	22.1	3.7
Person.			822	13.4	3.1
			823	11.7	3.2
			828	11.3	3.7
			829	12.4	3.6
Grinder - BZ	527	3.1	528	19.2	4.4

Charlotte Works, H.K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Carding (continued)					
Card Operator-BZ	12	1.1	11	39.7	16.3
	51	0.8	52	8.5	2.1
	238	1.2	239	3.9	0.4
	521	2.2	522	36.6	7.1
	525	1.6	526	23.3	8.1
	545	2.1	546	34.7	4.4
	550	3.1	551	39.1	8.1
	425	1.0	424	19.1	2.9
Person.			103	19.9	4.7
			107	16.8	3.6
			108	12.2	4.7
			502	15.6	2.9
			503	36.8	7.4
			504	24.9	8.9
			505	28.9	10.2
			531	21.9	7.3
			532	14.7	2.9
			547	16.2	3.6
G.A.	3	1.2	1	38.3	8.8
Rover Hauler-BZ	524	1.8	523	16.8	4.3
	591	0.8	592	3.8	2.6
Person.			218	12.9	4.2
Lap Card Operator-BZ	423	1.5	422	7.3	1.5
Person.			205	16.1	4.8
General Air	4	2.6	5	24.0	8.0
	7	0.9	6	16.1	1.8
	17	1.5	14	43.5	25.8
	106	2.5	104	49.3	18.1
	109	0.8	111	11.8	4.9
	116	2.2	114	32.8	5.9
	119	1.5	117	33.7	5.4
Seq.	509	0.4	515	3.5	1.4
	510	0.3	516	7.8	1.0
	511	0.8	517	14.4	5.6
	512	0.6	518	15.1	1.4
	513	1.2	519	8.4	3.2

Charlotte Works, H. K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Carding (continued)					
General Air (cont.)	514	1.0			
			520	14.4	3.5
Seq.	533	1.0			
			537	12.6	3.5
	5534	0.8			
			538	12.6	4.4
	535	0.2			
			539	17.0	3.2
	536	0.5			
			540	17.0	2.4
	541	1.8	543	36.0	9.8
	417	1.0	419	9.7	4.2
Amosite Carding					
Breathing Zone	392	0.5			
	393	0.3			
General Air	386	0.5	384	12.5	3.5
	389	0.3			
	391	0.6	390	16.5	9.2
Spinning					
Fixer - Person.			820	6.3	2.9
			826	2.2	1.7
SSpinner Ring-BZ	69	0.3	68	3.4	0.9
	771	1.2	70	7.0	1.9
	74	0.5	73	4.3	2.0
	82	0.0	81	8.1	2.6
	84	1.1	83	5.4	1.5
	88	1.2	87	6.4	2.2
	314	0.8	315	20.5	8.8
	316	2.4	317	3.7	1.5
	372	0.3	373	5.2	3.4
	374	0.3	375	8.3	4.7
	380	2.2	381	2.8	0.6
	382	0.8	383	3.6	3.7
	585	0.4	586	3.8	
	595	1.0	596	2.1	1.5
	625	3.8	626	2.8	1.5

Charlotte Works, H. K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Spinning (continued)					
Spinner Ring-BZ (cont.)	630	1.7	631	13.4	1.5
	638	2.3	637	12.6	5.2
	639	0.3	640	2.8	1.1
Person.			150	8.8	2.5
			151	4.1	1.1
			153	10.4	2.4
			308	4.5	2.3
			309	4.5	2.5
			310	1.8	0.2
			311	2.9	1.0
			312	3.4	1.6
			313	5.4	2.2
			318	3.6	0.9
			319	7.9	4.4
			320	7.0	2.2
			321	4.7	2.2
			322	4.0	1.0
			323	6.5	1.9
			332	8.4	4.3
			333	7.0	3.4
			340	7.9	2.0
			341	6.4	3.8
			376	1.3	0.6
			377	1.4	0.8
			378	3.7	2.3
			379	0.3	0.2
			604	4.5	1.7
Doffer - BZ	593	1.6	594	3.5	2.4
Person.			813	9.2	4.3
General Air	61	0.77	59	9.9	5.2
	66	0.0	64	2.3	0.9
	328	0.3			
	336	0.2	334	3.8	0.9
	370	0.8	368	7.9	2.1
Seq.	57	0.9			
			304	8.4	5.3
	301	1.0			
			305	4.5	1.6
	302	0.9			
			306	13.3	8.1
			307	1.6	0.8

Charlotte Works, H. K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Spinning (continued)					
General Air (cont.)					
Seq.	358	0.5			
			352	3.8	1.6
	359	0.4			
			353	2.8	0.8
	360	0.4			
			354	4.5	1.6
	361	0.8			
			355	2.5	0.5
	362	0.4			
			356	2.1	1.0
	363	0.2			
			357	0.5	0.4
Twisting					
Fixer - Person.			821	3.6	0.8
		[illegible]	827	3.8	0.9
Twister - BZ	76	10.0	75	12.2	7.4
	80	3.8	79	4.2	2.2
	86	3.[illegible]	85	3.4	1.1
			90	5.0	1.3
			92	32.8	9.2
	330	2.4			
	331	9.4			
	338	3.3	339	9.1	1.8
	348	3.0	349	6.6	7.8
	350	4.2	351	1.4	0.4
	597	2.4	598	4.4	2.9
	599	4.2	600		
	601	1.4			
	606	5.5	607	14.6	10.3
	608	0.7	609	1.2	0.7
	623	3.5	624	10.7	2.0
	628	6.2	629	17.6	5.2
	632	1.7	633	12.8	4.6
	635	1.0	636	7.2	5.4
	653	3.9	654	4.4	1.6
	728	10.0	727	19.5	7.9
			737	30.0	13.6
	739	2.1	738	16.4	3.7

Charlotte Works, H. K. Porter Co.

Operation		Impinger		Membrane Filter		
					Fibers/cc	
		Sample #	mppcf	Sample #	Total	10 μ +
Twisting (continued)						
Twister						
	Person.			152	4.9	1.7
				154	15.0	6.9
				342	1.0	0.6
				343	5.9	1.8
				365	4.6	2.5
				603	2.5	0.8
				622	5.6	3.5
				627	8.6	2.9
				634	6.3	3.7
	Gen. Air	824	2.0			
General Air		346	2.3	344	5.0	1.8
	Seq.	573	0.4			
				579	7.3	-
		574	0.6			
				580	13.0	-
		575	0.8			
				581		
		576	0.5			
				582	7.0	2.8
		577	0.5			
				583	3.6	2.3
		578	0.7			
				584	5.0	3.5
	Seq.	616	0.4			
				610	1.2	0.5
		617	0.4			
				611	3.8	1.2
		618	0.4			
				612	6.4	2.3
		619	0.8			
				613	4.5	1.4
		620	0.5			
				614	0.8	0.4
		621	0.6			
				615	0.1	0.0

Charlotte Works, H. K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Twisting (continued)					
General Air (cont.)					
Seq.	641	0.3			
			647	10.5	6.0
	642	0.5			
			648	10.5	4.2
	643	0.9			
			649	3.8	2.1
	644	0.6			
			650	8.0	4.6
	645	0.7			
			651	5.2	2.8
	646	0.7			
			652	4.2	2.1
Winding					
Winder - BZ	78	1.2	77	5.7	2.9
	589	1.7	590	7.9	1.0
	716	0.2	717	2.1	0.6
	721	0.8	722	2.8	1.1
Person.			364	6.0	3.7
			366	4.5	1.3
			367	6.6	0.8
Weaver					
Weaver Cloth-BZ			94	6.2	2.9
	97	0.2	96	1.5	0.7
	98	0.5	99	6.7	1.4
	100	0.7	101	11.8	5.0
	241	0.4	242	3.2	0.7
	244	0.6	243	12.2	5.6
	253	0.6	252	12.4	5.6
	257	0.3	256	6.2	1.5
	399	0.3	398	42.7	16.2
	658	0.4	659	7.8	4.0
	705	0.3	704	2.7	1.3
	707	0.3	706	5.1	2.5
	709	0.6	708	4.2	3.1
	712	1.0			
	801	0.4	802	3.7	1.0

Charlotte Works, H. K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Weaving (continued)					
Weaver Cloth (cont.)					
Person.			240	2.5	0.9
			247	1.4	2.5
			251	10.3	4.9
			397	8.0	3.4
Weaver Tape-BZ	169	0.9	168	15.8	6.4
	171	0.4	170	6.9	1.5
	173	0.3	172	2.5	0.6
	175	0.4	174	1.1	0.6
	388	0.2			
	656	2.8	657	33.2	11.1
	663	0.5	664	3.6	1.1
	715	0.9	714	15.1	4.9
Person.			155	9.5	0.3
			156	7.7	1.5
			157	3.4	0.5
			160	2.7	1.7
			161	4.1	0.6
			162	1.8	0.8
			164	2.7	0.9
			166	2.2	1.1
			396	5.2	1.5
Fixer - Person.			812	15.4	4.5
			819	4.4	0.8
			825	5.8	3.2
Creeler - BZ	661	0.2	662	1.3	0.2
Person.			159	2.5	0.7
			163	2.2	0.2
			395	9.3	2.7
Warper & Beam-BZ	659I	0.3	660	0.6	0.18
	719	1.5	718	12.9	5.6
Person.			394	9.5	4.8
Winder-C & Q --BZ	254	0.3	255	4.1	1.6
	711	0.7	710	6.5	2.5
Person.			165	4.1	1.2
			245	6.4	4.8

Charlotte Works, H. K. Porter Co.

Operation	Impinger		Membrane Filter		
				Fibers/cc	
	Sample #	mppcf	Sample #	Total	10 μ +
Weaving (continued)					
Yarn Hauler--Person.			167	4.4	1.3
			814	10.7	3.2
Rope, Wick, Braid & Cord					
Slubber Operator-BZ	220	0.9	219	9.1	2.3
Person.			217	14.6	3.5
Former Rope & Wick-BZ	37	0.7	36	8.7	1.2
	571	0.6	572	14.6	6.9
Person.			210	8.7	2.3
			421A	4.1	2.3
Winder, Rope, Cord Wick - BZ	421	1.5	39	172.5	25.2
	427	1.1	426	13.0	6.5
Person.			213	9.1	3.1
Finishing					
Inspector - Person.			803	1.2	0.5
			804	0.3	0.1
			805	1.8	0.8
			806	3.1	0.9
			807	1.2	0.8
Gen. Air	808	0.1	809	0.7	0.0
	817	0.1	818	1.2	0.2
Treatment & Finishing-BZ	810	0.1	811	28.7	9.4
Person.			816	0.6	0.5
Gen. Air	726	0.2	725	2.1	0.7
Calender-Gen. Air	724	0.2	723	3.0	1.3
Miscellaneous					
Gen. Maintenance-BZ	207	4.3	209	9.8	2.6
Janitor - BZ	703	1.8	702	11.5	3.9
Person.			103	19.9	4.7
Ventilation	732	0.6	731	1.0	0.7
	734	0.0	733	2.5	0.0